EDS-505A/508A/516A Series

5, 8, and 16-port managed Ethernet switches

- Plug-n-play Turbo Ring (recovery time < 20 ms), RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
- QoS, IGMP snooping/GMRP, VLAN, LACP, SNMP V1/V2c/V3, RMON supported
- Customer configured e-mail notification by exception
- User-friendly web-based configuration and management
- -40 to 75˚C operating temperature (T models)
- ABC-01 (Automatic Backup Configurator) for system configuration backup

The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.

Introduction

EDS-505A/508A/516A are standalone 5, 8, and 16-port managed Ethernet switches. With its advanced Turbo Ring (recovery time < 20 ms) technology and RSTP/STP (IEEE 802.1w/D), the EDS-505A/508A/516A switches increase the reliability and availability of your industrial Ethernet network. Models with an extended operating temperature range of -40 to 75°C are also available. In addition, the switches support several reliable and intelligent functions, including QoS, IGMP Snooping/GMRP, VLAN, Port Trunking, SNMP V1/V2c/V3, IEEE 802.1X, and RMON, making the EDS-505A/508A/516A switches suitable for any harsh industrial environment.

Features and Benefits

- IGMP Snooping and GMRP for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN and GVRP to ease network planning
- QoS-IEEE 802.1p/1Q and TOS/DiffServ to increase determinism
- Port Trunking for optimum bandwidth utilization
- RMON for efficient network monitoring and proactive capability
- SNMP V1/V2c/V3 for different levels of network management security
- IEEE 802.1X and https/SSL to enhance network security
- Bandwidth management prevents unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Port mirroring for online debugging
- Automatic warning by exception through e-mail and relay output
- Digital inputs to integrate sensors and alarms with IP networks

Specifications

Technology

Standards: IEEE 802.3 for 10BaseT,
IEEE 802.3u for 100BaseT(X) and 100Base FX,
IEEE 802.3x for Flow Control,
IEEE 802.1D for Spanning Tree Protocol,
IEEE 802.1w for Rapid STP,
IEEE 802.1Q for VLAN Tagging,
IEEE 802.1p for Class of Service,
IEEE 802.1X for Authentication,
IEEE 802.3ad for Port Trunk with LACP

Protocols: IGMP V1/V2/V3 device, GVRP, SNMP V1/V2c/V3, DHCP Server/Client, DHCP Option 82, BootP, TFTP, SNTP, SMTP, RARP, GMRP, LACP, RMON

MIB: MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON Group 1, 2, 3, 9

Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

Priority Queues: 4

Max. Number of Available VLANs: 64

Number of VLAN IDs: VID 1 to 4094

IGMP Groups: 256

Interface

RJ45 Ports: 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

Fiber Ports: 100BaseFX ports (SC/ST connector)

Console: RS-232 (RJ45)

LED Indicators: PWR1, PWR2, FAULT, MASTER, COUPLER, 10/100M

DIP Switches: Turbo Ring, Master, Coupler, Reserve (508A and 505A only)

Alarm Contact: Two relay outputs with current carrying capacity of 1A @ 24 VDC

Digital Input: Two inputs with the same ground, but electrically isolated from the electronics

- +13 to +30V for state "1"
- -30 to +3V for state "0"
- Max. input current: 8 mA

Optical Fiber

	100BaseFX		
	Multi Mode	Single Mode	Single Mode, 80 km
Wavelength	1300 nm	1310 nm	1550 nm
Max. TX	-10 dBm	0 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm	-34 dBm
Link Budget	12 dB	29 dB	29 dB
Typical Distance	5 km [a] 4 km [b]	40 km [c]	80 km [d]
Saturation	-6 dBm	-3 dBm	-3 dBm

a. 50/125 µm, 800 MHz*km fiber optic cable
b. 62.5/125 µm, 500 MHz*km fiber optic cable
c. 9/125 µm, 3.5 PS/(nm*km) fiber optic cable
d. 9/125 µm, 19 PS/(nm*km) fiber optic cable

* Single mode for EDS-508A and EDS-505A only.

Power Requirements

Input Voltage: 24 VDC (12 to 45 VDC), redundant dual inputs

Input Current (@ 24 V): 0.44A (EDS-516A), 0.51A (EDS-516A-MM), 0.26A/0.24A (EDS-508A/505A), 0.36A/0.35A (EDS-508A/505A-MM, EDS-508A/505A-SS)

Connection: Two removable 6-pin terminal blocks

Overload Current Protection: Present

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal, IP30 protection

Dimensions (W x H x D):

EDS-505A/508A series: 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in.)

EDS-516A series: 94 x 135 x 142.7 mm (3.7 x 5.31 x 5.62 in.)

Weight:

EDS-505A/508A series: 1040 g

EDS-516A series: 1586 g

Installation: DIN-Rail mounting, wall mounting (optional kit)

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)
-40 to 75°C (-40 to 167°F) for T models

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

Safety: UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1

Hazardous Location: UL/cUL Class I, Division 2, Groups A, B, C, and D (EDS-516A Pending); ATEX Class I, Zone 2, Ex nC IIC (Pending)

Maritime: DNV, GL

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), level 3 (EDS-508A/505A) / level 2 (EDS-516)
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3 (EDS-508A/505A) / level 2 (EDS-516)
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-8
EN61000-4-11

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

MTBF: EDS-505A series: 352,000 hrs
EDS-508A series: 339,000 hrs
EDS-516A series: 247,000 hrs
Database: Telcordia (Bellcore), GB

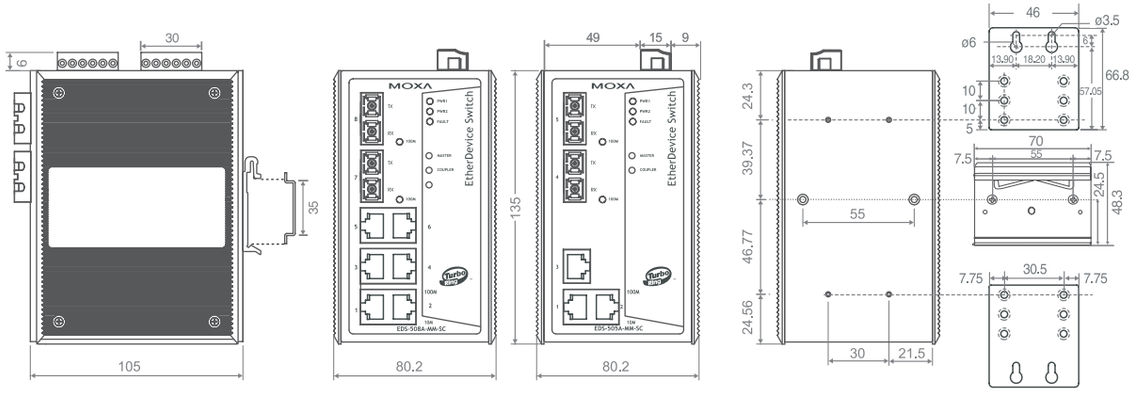
*Please check Moxa's website for the most up-to-date certification status.

Warranty

5 years (see www.moxa.com/warranty for details)

Dimensions (unit = mm)

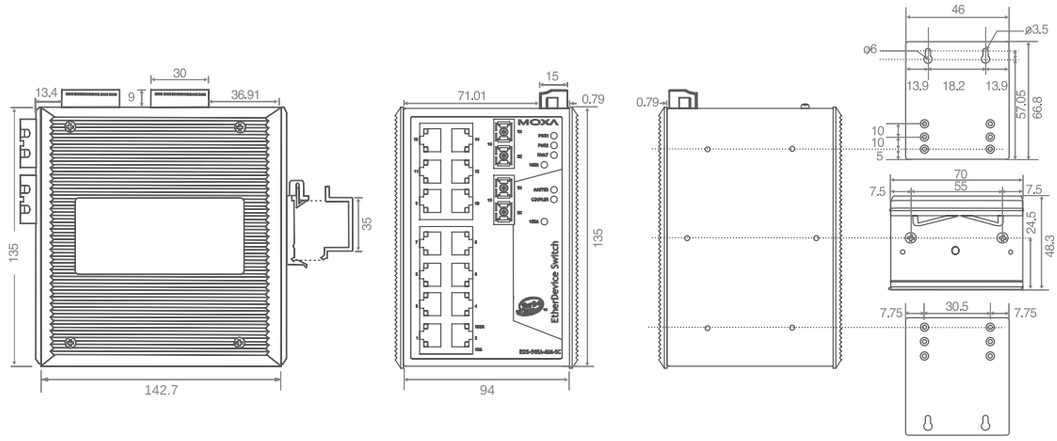
EDS-505A/508A



Side View | DIN-Rail Kit | Front View | Rear View | Panel Mounting Kit

Dimensions (unit = mm)

EDS-516A Series



Side View DIN-Rail Kit Front View Rear View Panel Mounting Kit

Ordering Information

Model Name		Port Interface				
			100BaseFX			
Standard Temperature (0 to 60°C)	Extended Temperature (-40 to 75°C)	10/100BaseT(X)	Multi Mode, SC Connector	Multi Mode, ST Connector	Single Mode, SC Connector	Single Mode, SC Connector, 80 km
EDS-508A/505A Series						
EDS-505A/508A	EDS-505A/508A-T	8/5	---	---	---	---
EDS-505A/508A-MM-SC	EDS-505A/508A-MM-SC-T	6/3	2	---	---	---
EDS-505A/508A-MM-ST	EDS-505A/508A-MM-ST-T	6/3	---	2	---	---
EDS-505A/508A-SS-SC	EDS-505A/508A-SS-SC-T	6/3	---	---	2	---
EDS-505A/508A-SS-SC-80*		6/3	---	---	---	2
EDS-516A Series						
EDS-516A	EDS-516A-T	16	---	---	---	---
EDS-516A-MM-SC	EDS-516A-MM-SC-T	14	2	---	---	---
EDS-516A-MM-ST	EDS-516A-MM-ST-T	14	---	2	---	---

* The EDS-505A-SS-SC-80 only has a standard temperature model.

Optional Accessories

- **ABC-01:** Industrial RS-232, RJ45-based, automatic backup configurator
- **EDS-SNMP OPC Server Pro:** CD with EDS-SNMP OPC server software and manual
- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high, 19” rack mounting kit